DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Several portions of water main are leaky and/or have reached the end of their useful service life. System lacks proper metering to allow for optimal revenue generation and remote control monitoring capability. Raw water source development is lacking.

Sewer: Several portions of sewer main are leaky and/or have reached the end of their useful service life. System lacks proper metering to allow for optimal revenue generation and remote control monitoring capability.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Repair/Replace water main, install curb stops, and service lines. Install water meters on all commercial buildings including the tribal trailer court. Install SCADA controls in the WTP. Install air release valves on raw water main.

Sewer: Repair Replace sewer main, complete sewer main survey work including dive inspection of outfall. Install SCADA controls to operate the lift stations.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	3800	Ft.	D
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	1000	Ft.	D
Sewer, Other - Professional Services (engineering)	Other	1	Ls.	D
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	3000	Ft.	D
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1000	Ft.	D
WATER SOURCE - Surface water gallery, water source	IHS Regular	1	Ea.	D
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	D
Sewer, Other - Other sewer	IHS Regular	1	Ls.	D
Water, Other - Other water	IHS Regular	1	Ls.	D
WATER DISTRIBUTION - Mains, above ground, water distribution	IHS Regular	1	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,035,664.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: Primary WW treatment tanks are difficult to maintain and fill too quickly with solids.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Install additional new primary WW settling tanks to improve system function.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Septic tank, community, sewer treatment	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,000,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing landfill has capacity for the next 20 years. The facility will need to be closed out properly per ADEC regulations.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: This project will close the existing landfill per ADEC regualtions.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	18	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,330,666.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The City of Kaltag operates the piped water and wastewater system. The water/wastewater system is approximately 30 years old. The washeteria is 22 years old. The city is planning on upgrading the system as part of a phased projec. This past summer, the city worked on Phase 2 of the project: activities included construction of a new backup well and wastewater main extensions; wastewater manhole replacements; replacement of old pipes; installation of new valves, and installation of several new service connections. The un-meet needs are the replacement of old water mains and service extensions, replacement of old service connections, and extension of the water main.

Sewer: The City of Kaltag operates the piped water and wastewater system. The water/wastewater system is approximately 30 years old. The washeteria is 22 years old.

Solid Waste: Un Permitted

O & M: None

PROPOSED FACILITIES:

Water: Upgrades to the Washeteria will include the replacement of the existing large extractor and replacement of one small extractor with a medium extractor.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $50,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The existing Loop B water main consists mostly of arctic PVC pipe that is increasingly becoming more costly to operate and maintain. Recent leaks in the main resulted in a loss of about 6000 gallons per day until it was repaired. Also, original pitorifice water taps along the main are prone to leakage.

Sewer: Sections of original arctic sewer main and manholes from the 1970's remains in service and is becoming increasingly more costly to operate and maintain. Sections of sewer main backup resulting in solids buildup in the upstream manhole.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace approximately 4800 linear feet of 4-inch PVC water main with 4-inch HDPE water main. Replace all affected pitorifice connections with new fused connections, and replace copper water service lines with 1-inch HDPE service lines. Upgrade circulating pumps at the water treatment plant. Install booster pumps at the water treatment plant to allow higher flow rates in the event of a fire. Install 4 fire hydrants.

Sewer: Replace six sewer manholes with new HDPE manholes. Replace 1000 linear feet of failing sewer main with new HDPE sewer main.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	4800	Ft.	D
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1000	Ft.	D
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,580,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None.

Sewer: None.

Solid Waste: The landfill does not have any means of controlled burning of combustible waste material in order to reduce the volume of waste entering the landfill.

O & M: None

PROPOSED FACILITIES:

Water: None.

Sewer: None.

Solid Waste: Construct a burn box/incinerator for the existing landfill site to provide a controlled means of waste reduction through burning.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $150,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The current water storage tank has structurally failed and is 36-years old. As configured, the tank does not operate as a chlorine contact tank but as a raw water storage tank. The tank floor is not level. The side walls have settled in places due to soil erosion from beneath the tank. Interior structural support members have deformed due to ice buildup. The interior and exterior surfaces are pitted, show severe corrosion (75% reduction in side wall thickness in locations), and generally show blistered epoxy coating. The tank sits on a soil foundation pad that allows water from a small stream to flow beneath and around the tank. The present configuration of the WTP, WST, and transmission piping does not provide the chlorine contact time required by the State and Federal drinking water regulations.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project will replace the existing raw WST with a new 50,000 gallon treated WST. Installation of new raw and treated water transmission lines will increase chlorine CT time to provide contact time required to meet state and federal surface water drinking regulations. New water source at higher elevation will provide head pressure to operate water treatment process by gravity without additional electrical power source and provide ADEC required community distribution pressures in the system. New surface water source gallery will install a secured, covered, concrete, collection basin with raw water discharge line to WTP.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	50000	Gal.	B
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	Other	50000	Gal.	B
WATER DISTRIBUTION - Foundation - concrete foundation	IHS Regular	1	Sf.	B
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	3500	Ft.	B
WATER SOURCE - Surface water gallery, water source	IHS Regular	1	Ea.	B

WATER SOURCE - Surface water gallery, water source	IHS Regular	1	Ea.	B

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,470,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water:

Sewer: Two compartment septic tank with lift pump installed in 1987 is inadequate for current flow volume, solids volume, and pump lift. One pump has failed and recurring problem with discharge line blockage due to original piping configuration results in sewage overflowing onto the adjacent ground. Overflow and ponding sewage poses serious public health risk to the village residents. The lift station discharge piping also has a subsurface leak that seeps into the surrounding area.

Solid Waste:

O & M:

PROPOSED FACILITIES:

Water:

Sewer: This project will replace the existing lift station with a new dual,submersible pump lift station with new electrical controls.

Solid Waste:

O & M:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	40	Ft.	C
Sewer, Other - Other sewer	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $483,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing water mains are undersized and exceeded their useful design life.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project proposes to replace all the water distribution mains with 8 inch HDPE SDR 11 water mains.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	BIA	2000	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $315,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unapproved dump site near sewage lagoon.

O & M: Non-existent O&M.

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Rehabilitate site, develope SW Management Plan.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - General estimate, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $250,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The community does not have water meters for proper utility billing.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Install 20 water meters at an estimated cost of $2000 per installation.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $40,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The community does not have a permitted sludge disposal lagoon or an adequate sludge pumper truck. The existing outfall needs to be extended.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Install a sludge disposal lagoon and a new outfall. Purchase a sludge pumper truck.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Ocean outfall, sewer treatment	IHS Regular	1500	Ft.	D
SEWER TREATMENT - Septic tank pumper, sewer treatment	IHS Regular	1	Ea.	D
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	3	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,375,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: Unapproved open solid waste site. Community hauls trash and sludge to Thorne Bay.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Purchase compactor truck, Close existing old landfill site.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - General estimate, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $175,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The center of the existing water storage tank is settling (currently over 12-inches of settlement has occurred) and may fail at any time.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Build an insulated 212,000-Gallon bolted-steel water storage tank, near the new water treatment plant (WTP), with required piping and modifications in the WTP.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: Water Well Upgrades, Lift Station Construction, West Willow Sewer Main Improvements, Water and Sewer Service Construction - 95% complete. Bluff Scattered Water and Sewer Service Line Construciton.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	212000	Gal.	C
WATER DISTRIBUTION - Foundation - freeze back piles, water distribution	IHS Regular	1200	Sf.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,169,096.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Open (non-permitted) dump with difficult access that serves both Old and New Kasigluk.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop SW site selection report, construct a permitted class III waste disposal site. Develop a solid waste management plan, close existing site if necessary.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	2	Ac.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	5	Ac.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,000,911.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The existing manganese sequestering agent injection system has only been partially effective in controling the effects of manganese in the city water system. Some residents also object to having a sequestering agent in their water.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Install filter media vessels, chemical injection equipment, backwash pumps, an air score system, and necessary controls and equipment in the existing water treatment plant to filter the manganese out of the water. The old sequestering system will be removed.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: Water Well Upgrades, Lift Station Construction, West Willow Street Sewer Main Improvements, Water and Sewer Servie Construction - 95% Complete. Bluff Scattered Water and Sewer Service Line Construction.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $545,445.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Currently no water service is provided for 21 lots in the Valley View Subdivision. 2 homes have been constructed and are permanently occupied with no water service. The community plans to develop the remaining lots in the near future.

Sewer: No sewer service is provided for 21 lots in the Valley View Subdivision. 2 homes have been constructed and are permanently occupied with no sewer service. The community plans to develop the remaining lots in the near future.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project provides an extension of 2,600 LF of water main to serve 21 lots in the Valley View Subdivision. Two existing houses will be provided with first time water service.

Sewer: This project provides 1,230 LF of gravity sewer main, 1,150 LF of sewer force main and one lift station to serve 21 lots in the Valley View Subdivision. Two existing houses will be provided with first time sewer service.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	1150	Ft.	A
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1230	Ft.	A
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	A
Water, Other - Other water	IHS Regular	1	Ls.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2600	Ft.	A
Water, Other - Other water	IHS Regular	1	Ls.	A
Sewer, Other - Other sewer	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,038,267.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Projected population growth in the city demands expansion of the water utility in the valley view section of the city.

Sewer: Projected population growth in the city demands expansion of the sewer utility in the valley view section of the city.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Expand the water utility into the valley view area of Kiana. This construction includes 1,180 feet of water distribution line and modifications to the water treatment plant.

Sewer: Expand the sewer utility into the valley view area of Kiana. This construction includes 750 feet of sewer collection line.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	750	Ft.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	1180	Ft.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $395,840.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Projected population growth in the city demands expansion of the water utility in the valley view section of the city. Additionally, 12 homes on Taylor Road unserved w/ piped water.

Sewer: Projected population growth in the city demands expansion of the sewer utility in the valley view section of the city. Additionally, 12 homes on Taylor Road unserved w/ piped sewer.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Expand the water utility into the valley view are of Kiana. This construction includes 10,000 feet of water distribution line, modifications to the water treatment plant, and water service connections. This project also proposes to install individual buried circulating water service lines for 10 homes, interior plumbing for 12 homes. Homes lie on the bluff along Taylor Road.

Sewer: Expand the sewer utility into the valley view are of Kiana. This construction includes 5,400 feet of sewer collection line, a lift station, 600 foot force main line, and sewer service connections. This project also proposes to install individual buried forcemain sewer service lines, including 2,200 LF buried gravity sewer mains, a lift station, and 350 LF sewer force main for homes on bluff along Taylor Road.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	600	Ft.	A
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	5400	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	4	Ea.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	400	Ft.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	10000	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	400	Ft.	A

WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	4	Ea.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	BIA	200	Ft.	E
SEWER COLLECTION - Service lines, direct bury, sewer collection	BIA	200	Ft.	E
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	A
WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $5,106,205.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The existing location of community sewage lagoon accounts for yearly leaks and freeze ups of the force main line serving the lagoon. This condition routinely causes raw sewage to overflow into the local community and into the Kobuk River which serves as a raw water source for other communities in the region.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Relocate existing community sewage lagoon to allow it to be served by a gravity sewer main line. This will prevent the annual freezu ups and raw sewage overflow into the Kobuk River.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	14	Ac.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	3400	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $4,032,544.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Several homes on the west side of the village do not have piped water service.

Sewer: Several homes on the west side of the village do not have piped sewer service.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Extend the west water loop to serve un-served homes and provide water service line connections.

Sewer: Extend the west sewer collection line to serve un-served homes and provide sewer service line connections.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	2200	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1200	Ft.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	4000	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	1200	Ft.	A
WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,410,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The community dump site is essentially uncontrolled. There are no provisions for the segregation of household hazardous waste, used batteries, and used oil. There is no burn box for the reduction of solid waste volume and there is no area for salvage of parts from junk appliances and machines. The site is not permitted and is located withing 5000 feet of the airport runway.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Upgrade the existing community dump site by consolidating the existing solid waste, constructing an earthen berm to provide cover for land fill operations and purchasing equipment to compact, consolidate, and cover the waste. Project includes constuction of a salvage area and provisions for segregating hazardous wastes, batteries and oil.

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: Sanitary Facilities Improvements - provide water and individual sewer services for up to 6 residents in Kiana

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,583,550.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: There is insufficient raw water recharge at the existing reservoir to support the proposed future piped system. This is a honeybucket community; therefore the collection rate is claimed as 85% on the O&M worksheet. 1. -15 was applied by the scoring committee. There is an application through CIP for a PER/MP. The PER/MP needs to be completed before construction funds are allocated to the project.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Application through VSW for a feasibility and preliminary engineering design report will be written for a high rate recharge line and construction of the proposed recharge system. The system will consist of above ground pipe to the river for the purpose of pulling raw water from the river and filling the existing raw water reservoir. IHS funds will be used for the construction of the recommended system.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Study, water other	IHS Regular	1	Ls.	A
WATER DISTRIBUTION - Mains, above ground, water distribution	IHS Regular	13200	Ft.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,550,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Community lacks a piped water system, or ATV haul, and in-house plumbing in 103 non-HUD homes.

Sewer: Community lacks a piped sewage system or ATV haul and inhouse plumbing to 103 non-HUD homes.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construction of piped water service to 28 homes. This project requires the completion of the reservoir recharge project to be viable.

Sewer: Construction of piped sewer service to 28 homes.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	A
Sewer, Other - General estimate, sewer other	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $34,000,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Village lacks adequate, permitted solid waste landfill facilities.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Construction of upgraded solid waste facility and boardwalk to support the facility.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Boardwalk, solid waste	IHS Regular	1000	Ft.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	7	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,850,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing washeteria building is over twenty years old and requires upgrades in order to continue serving as the city's only showering and washing facility. The washers and driers are 12-20 years old, are in need of constant repair, and can no longer reliably meet the demands of the village. The majority of the interior piping has experienced breaks during the life of the washeteria, causes constant leaks, and requires replacement. Leaking water has caused water damage and some wood structural system has begun to rot. The plumbing fixtures have served their useful life and need to be replaced. In summary, the city is served solely by the washeteria and watering point, the facility needs improvements, and an improved facilities are feasible.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Upgrade the existing washeteria facility. Replace existing washers and driers with a battery of new ones. Replace existing water piping with HDPE pipes to prevent breaks during possible freeze-ups. Remove rotted wood and replace with new. Install new showers, lavatories, and toilets.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Washeteria, water portion, no foundation, water other	IHS Regular	1	Sf.	D
Sewer, Other - Washeteria, sewer portion, no foundation, sewer other	IHS Regular	1	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,200,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: There are two existing water tanks which are 500,000 gallons and 700,000 gallons each. The 500,000 gallon tank needs to be re-insulated. The reinsulation of the 500,000 gallon tank is funded through a separate Village Safe Water project. The tanks are filled during summer, and then must last through winter because there is no year round water source. Water rationing is sometimes used to prevent the existing tanks from running dry before being able to refill them each summer. Despite water rationing, the community has still run out of water several times in recent years. Additional storage is needed to meet existing needs, and the needs of the desired future water/sewer flush and haul system.

Sewer: The existing honeybucket lagoon is too small to meet needs for a proposed flush & haul system.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Reinsulate the existing 500,000 gallon water tank. Construct a new 700,000 gallon, insulated water tank with yard piping and associated upgrades at the existing water treatment plant.

Sewer: Cleanup and enlarge the existing honeybucket lagoon to prepare for a desired future flush & haul system.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	700000	Gal.	C
Water, Other - Other water	VSW/EPA	1	Ls.	C
WATER DISTRIBUTION - Foundation - thermosyphen gravel pad, water distribution	IHS Regular	5100	Sf.	C
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	2	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,253,974.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: There is no piped or community haul system to provide water to homes in Kivalina. Individuals self-haul water. ATV water haul system needed.

Sewer: ATV sewer haul system needed. There is no piped or community haul system to dispose of sewage for homes in Kivalina. Kivalina is a honey bucket community. The only piped water and sewer facilities in the city are the health clinic, washeteria and school. The health clinic and the washeteria share a septic tank. The city has no means of pumping the sludge from the tank.

Solid Waste: None

O & M:

PROPOSED FACILITIES:

Water: Provide two ATV/snowmobile water haul vehicles. Install flush and haul plumbing and appurtenances in 55 homes. Upgrade existing city equipment storage building to accomodate proposed water haul vehicles.

Sewer: Provide two ATV/snowmobile sewer haul vehicles. Install flush and haul plumbing and appurtenances in 55 homes. Construct a new heated storage building to accomodate a proposed sewer haul vehicles. Complete the wastewater treatment plant.

Solid Waste: None.

O & M:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Haul vehicle, sewer collection	IHS Regular	2	Ea.	C
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	39	Ea.	C
WATER DISTRIBUTION - Haul vehicle, water distribution	IHS Regular	2	Ea.	C
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	39	Ea.	C
Sewer, Other - Other sewer	IHS Regular	1	Ls.	C
Sewer, Other - Road, sewer other	IHS Regular	4000	Ft.	C
SEWER TREATMENT - Treatment plant, sewer treatment	IHS Regular	1	Ea.	C
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	16	Ea.	C

WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	16	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $5,827,050.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kivalina does not have a piped water distribution system. Water is distributed to homes by individual home owners.

Sewer: Kivalina does not have a piped wastewater collection system. Sewage is collected using honey buckets.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Install a water holding tank, in-home plumbing, and low-use water fixtures in five homes.

Sewer: Install a separating toilet, waterless urinal, and grey water sump in five homes.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	3	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	3	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	Other	2	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	Other	2	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $375,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: There is no stockpile of cover material for the solid waste site. Uncovered trash has created a large open dump scattered beyond the perimeter of the original site berms. The solid waste site needs another cell for future use. Cover material needs to be stockpiled. The solid waste site is only 500 feet from the end of the airstrip and violates FAA separation distance requirements. There is no other feasible site for an alternative location for a new landfill therefore the existing site must be upgraded despite the separation distance violation.

O & M: Operator training & equipment needed.

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Clean up, pile and burn scattered trash at the exiting site. Import a 10-year stockpile of gravel for cover material. Construct a fence around the site. Provide a large burnbox. Construct another cell at existing solid waste site. There is no feasible alternate location for another site. After completion of the proposed upgrades, the site will still create a safety hazard due to violation of FAA separation distance requirements from the nearby airstrip. There is no locally available gravel, therefore all gravel will need to be imported to the project site from a remote gravel source.

O & M: Operator training & equipment.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	4	Ac.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	4	Ac.	D
Solid Waste C (Development) - Other solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,793,655.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The community does not have a piped water distribution system.

Sewer: The community does not have a piped sewer collection systems.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This projecat will provide the infrastructure to provide piped water to the community including water mains, water treatment plant, a large water storage tank to meet the needs of a fill and draw system, a raw water line across the sea water lagoon, water treatment plant and house plumbing.

Sewer: This project will provide hte infrastructure to provide a piped sewer collection system for the community inlcuding lagoon, force main, lift stations, sewer collection system. The sewer system will be low pressure sewer due to sea water levels as a result costs include cost of providing an E1 low pressure unit for each home.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - General estimate, sewer other	IHS Regular	1	Ls.	A
Water, Other - General estimate, water other	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $23,489,995.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Existing wooden WST adjacent to City Hall has reached the end of its service life.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Demolish existing WST and erect a new 250,000 gallon WST.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	250000	Gal.	D
Water, Other - Foundation - conventional, local gravel, water other	IHS Regular	8000	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $984,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing impoundment at ½ mile creek has been damaged by ice flow and flooding events. Sections of the dam are falling apart. In addition, unstable banks have caused excessive erosion which has filled the reservoir with debris and earthen material and threaten the dam's integrity. These deficiencies threaten the facility and make it more difficult to ensure continued delivery of viable raw water for the entire Community of Klawock.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project will repair sections of the dam that have been damaged, reestablish reservoir volume, and implement erosion control in order to prevent catastrophic failure of the raw water intake structure. In the event of such a failure, the WTP would be unable to continue to produce potable water for the community.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Surface water impoundment, water source	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,500,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The Klawock WWTP has been operating for more than a year with only one functional clarifier and without a backup generator. The community would also like to install some remote monitoring equipment to monitor when lift station pumps are running and how much amperage they are pulling to to allow the utility to better manage their WW system and provide relief for operators.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: This project will provide parts and labor to rebuild Clarifier #1, install a back-up generator at the WWTP and install remote monitoring equipment at each of the community lift stations.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - Other sewer	IHS Regular	1	Ls.	C
Sewer, Other - Other sewer	IHS Regular	1	Ls.	D
Sewer, Other - Other sewer	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $250,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: There are no water meters for proper utility billing.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Install 196 water meters.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $294,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: None

Sewer: A Sewer Feasibility Study was published in March 2006 for the Chilkat Indian Village of Klukwan. The report stated, "certain facility upgrades are recommended to properly address public health and safety." (see attached conclusions and recommendations section from the report)

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Repair deficiencies in the existing sewer main and manholes (including a video analysis of the system, system, repair code violations that exist with the sewage lift station (including upgraded sewage pumps and controls), add a lift station hoist, replace existing septic tanks, provide a sludge pumper truck.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: A water treatment plant is currently under construction.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1500	Ft.	D
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	D
SEWER TREATMENT - Septic tank, community, sewer treatment	IHS Regular	2	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $649,012.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Corrosion and structural issues within the existing (old) finished water storage tank are getting worse. The internal tank coating system has failed to the point that the tank must be replaced. The structural column connection within the tank has failed and is not providing any support. Complete failure of the tank can be expected within four years. The internal rust coating does not meet NSF 61 (see attached regulatory letter from David Khan, PE ADEC).

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace the water storage tank as soon as possible to prevent a catastrophic failure. -15 pts, must verify the # of homes.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Foundation - concrete foundation	IHS Regular	1200	Sf.	C
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	200000	Gal.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $620,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unapproved dump site, intermittent operation.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop SW management plan, develop recycle and hazmat transhipment program, clean-up existing SW site, Provide SW operating equipment and storage facility and obtain state certified permit status for the facility.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - General estimate, solid waste	IHS Regular	1	Ls.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	2	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $305,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kobuk's existing water treatment plant boilers and hydronic system used to ensure circulating water lines do not freeze during winter months are over 20 years old and have become unreliable, posing a significant threat to the community's entire piped water distribution system. The existing WTP building is in good aesthetic and functional condition; however, the washeteria side of the building remains unused. The wastheteria has been decommissioned and is now empty. It is recommended that this building space be isolated from the WTP in order to decrease heating costs. There are also multiple deficiencies within the treatment and circulation systems - mostly failed or undersized components that require replacement. Due to chronic underdosing of oxidant the greensand filter media is not sufficiently reducing the iron and manganese concentrations in the raw water to meet ADEC standards for the treated water.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Provide two new boilers, hydronic equipment and updated electrical controls in the Kobuk WTP. Replace failed treatment system components including: differential pressure gages, backwash pump with variable frequency drive, backwash flow meter, flow-paced chemical injection pumps, and low flow switches to chemical pumps. Replace or install circulation system components including: pipe supports, check valves, heat-add instrumentation, heat exchangers, interior piping (currently undersized), flow meters, variable frequency drive control for pumps, and circulation pump motors. This project will also repair six water main thawports that are currently leaking. Install pipe supports on City and HUD distribution loops piping, upsize circulation piping to 3", Replace filter media on both 4' greensand filters.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: The ADOT recently completed extension and re-alignment of the existing airstrip. The Mannilaq Health Corporation is building a new health clinic

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier

WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $625,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The 20 year population projection indicates taht the current 95,000 gallon water storage tank will need to be upsized to keep up with community growth.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace existing tank with a 130,000 gallon WST and upgrade current heat-add system.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: The ADOT recently completed extension and re-alignment of the existing airstrip. The Mannilaq Health Corporation is building a new health clinic

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	130000	Gal.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $780,000.00

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DRAFT

EXISTING DEFICIENCIES:

Water: Both of the existing wells (#1 and #2) do not provide sufficient quantity of water to meet any high demand requirements (i.e., watermain break, service line leak, etc.).

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Redevelop the primary well, install and conduct a pump test in the existing back-up well, and construct a new groundwater well, drilled deeper than the existing wells, and water transmission line to connect the new well to the existing water treatment plant.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: The ADOT recently completed extension and re-alignment of the existing airstrip. The Mannilaq Health Corporation is building a new health clinic.

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Ground water well, water source	IHS Regular	1	Ea.	D
WATER SOURCE - Ground water well, water source	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $299,850.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: Three horizontal bends have been installed on the gravity main between the HUD lift station and cleanout 5 located at the end of the main. These bends are weak points and accumulate sludge that cause blockages in the main. The community drainfield is reaching the end of its 15 year lifespan and needs to be tested to determine if replacement for future expansion of this drainfield is necessary. Both the City and HUD lift stations need to be upgraded.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Bends will be removed and replaced with manholes to allow for access and maintenance to the gravity lines. Test and inspect community drainfield. Lift staion Upgrades will include new drop pipes, cleaning, new pumps, and some minor control upgrades.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: The ADOT recently completed extension and re-alignment of the existing airstrip. The Mannilaq Health Corporation is building a new health clinic

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - Other sewer	IHS Regular	1	Ls.	D
Sewer, Other - Study, sewer other	IHS Regular	1	Ls.	D
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $240,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Sanitary Upgrades

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Install signage, Distribute waste that has piled up at the dump entrance, Apply a fill cover to the existing waste, Install a secure gate at the entrance.

O & M: None

CIP Details:

Related Projects: The ADOT recently completed extension and re-alignment of the existing airstrip. The Mannilaq Health Corporation is building a new health clinic

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $420,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: 8 Homes on individual wells need connection to community water system (high iron and Mn).

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Extend water main and service connects to 8 homes on individual wells.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2000	Ft.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	800	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $869,088.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The existing surface water treatment plant does not meet current drinking water standards and is too small to be retrofitted. The solo valve on the sand filter had frozen and the internal orfices have broken. The building is 18 years old and has not done well in the extreme weather that comes off Lake Iliamna. It needs to be entirely replaced.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Build a new surface water treatment plant. The plant will need dual multimedia filters and polymer injection. There will need to be dual boilers for adding heat. The building should contain a small laboratory, bathroom, office, storage, and O&M work space.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: No santitation project planned at this time.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	1500	Sf.	B
WATER TREATMENT - Foundation - concrete foundation	IHS Regular	1500	Sf.	B
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,905,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The existing surface water treatment plant does not meet current drinking water standards and is too small to be retrofitted. The solo valve on the sand filter had frozen and the internal orfices have broken. The building is 18 years old and has not done well in the extreme weather that comes off Lake Iliamna. It needs to be entirely replaced.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Build a new surface water treatment plant. The plant will need dual multimedia filters and polymer injection. There will need to be dual boilers for adding heat. The building should contain a small laboratory, bathroom, office, storage, and O&M work space.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: No santitation project planned at this time.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	1500	Sf.	B
WATER TREATMENT - Foundation - concrete foundation	IHS Regular	1500	Sf.	B
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,905,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The community needs a sludge pumper truck to pump out septic tanks within the community.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Purchase and ship a new sludge pumper truck.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Haul vehicle, sewer collection	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $160,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: 5 existing E1 homes need a wells drilled for individual water sources.

Sewer: 5 existing E1 homes need a new septic system.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Install individual water wells and water service lines to 5 homes.

Sewer: Install septic systems with septic tanks and drainfield and wastewater service lines for 5 homes.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Ground water well, water source	IHS Regular	5	Ea.	C
SEWER TREATMENT - Septic tank/drainfield, individual, sewer treatment	IHS Regular	5	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $420,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unpermitted open dump at a suitable site.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Improve site, SW Management Plan and training.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	3	Ac.	D
Solid Waste C (Development) - Other solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,850,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The condition of the water treatment plant interior piping and pumps is in poor condition due to corrosion. Many of the valves are inoperable, and there have been numerous leaks in the plumbing, requiring repairs and replacement. The attached photograph (wtp corrosion by-products) shows a drain line from the hydropneumatic tank (note the blue-green coloration). One of the two water circulation pumps is inoperable due to corrosion. On a 3 Jan 2006, site visit there were several plumbing leaks in the water plant and water was flowing out of the water treatment plant through the sides of the building and forming ice along the exterior skirting as shown in attached photo (wtp water leaking through walls). This problem is compounded because the water treatment plant foundation is not level and ponded water will not drain into the existing floor drains. The chlorine mixing vat is not enclosed and there is a strong chloring odor present, further adding to a corrosive environment. Construction of the plant was completed in 1985. Water source--the existing two wells provided sufficient yeild during most of the year, but the yeild declines in the late winter/early spring as the recharge is reduced by frozen ground and river conditions. For the past several years the operator has reported that well yeilds were reduced to the point that they had to rely on the storage tank and water reduction measures to conserve water. The late season reduction in well yeilds almost caused the tank to empty and created the potential loss of circulation. An additional back up well is needed to ensure reliable year-round water supplies. The water distribution system is a single main, pitorifice-circulating loop consisting of over 7,000 feet of 4" PVC arctic tranmission line buried 6-7 feet below grade. The condition of the water mains is unknown although the village reports that there have been a few line breaks associated with areas of shallow bury between the village office and the water treatment plant where the main passes over the creek. The majority of the distribution system was installed in 1973 with water main extensions in 1983. Many of the fire hydrants have been removed over the years as a result of leaks and damage. The operator reports that the existing back up generator is of insufficient capacity to run the circulating pumps.

Sewer: The lift station is in poor condition with evidence of settlement, mold, and mildew on the interior walls and substantial corrosion on the electrical controls and components. The electrical system and the building structure do not comply with current code provisions. Erosioin around the lift station caused by water run-off has resulted in the lift station building being unsupported by a foundation (see lift statoin erosion photo). The lift station overflows into the adjacent creek as seen in the attached photos (overflowing lift station) and during a Jan 06 site visit raw sewage was visible flowing over ice on the Nushagak River (sewage overflow on River). One of two pumps was inoperable during each of three site visits spanning from Jan-June 2006. The pump impeller for the working pump becomes clogged at times and cannot drain the lift station. The pump guide rails are also inoperable making it difficult to repair the pump. A check valve for the inoperable pump is broken and allows wastewater to flow back into the lift station vault when it shuts off. Wastewater collection system--the majority of the wastewater collection system

consists of 6" and 8" diameter PVC gravity sewer mains with numerous large-volume septic tanks installed in line constructed for the most part in the 1970s. Several sewer main extensions were installed in 1984. The condition of the existing collection system is unknown. Seven homes on the west side of the community have conventional on-site wastewater systems. Four of these homes have had sewage back up problems. Three of the REPS units have had problems with sewage pumps and all are currently inoperable.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a new water treatment plant building behind the storage tank. A site is available near the storage tank, wells, and existing plant. The existing plant can be kept in operation while the new plant is under construction. The groundwater is corrosive to copper pipes and a desk top analysis highlighted use of a limestone contactor, replacement of pipe material to less corrosive plastics, and addition of orthophosphate. Addition of calcium hypochlorite for continued disinfection will also be used. Water source--Install a new well. Water quality analysis indicate that wells closer to the river have higher water quality. Elevated levels of iron and manganese occur wells further away. An additional well is necessary to make up for periods of low well yeild. Water distribution system--Perform a leak detection survery on to evaluate existing 30 year old PVC water main. The results of the survey will be used to determine the condition of the water main and if found not able to operate for the next 20 years, funds will be sought to replace the main line in subsequent funding cycles based on the documented conditions found. Replacement alternative includes 4 or 6" HDPE arctic pipe.

Sewer: Replace the existing lift station with a new submersible pump lift station with building structure located in the same general vicinity. Evaluate the existing wastewater collection system by closed circut television inspection and infiltration and inflow testing. Limited repair/replacement of sewer mains will be made following evaluation. The remainder of those sections found to be inadequate would be replaced in a separate phased funding request. The existing onsite drain fields would have adequacy testing conducted during this phase. Replacement of inadequate drainfields would take place in a subsequent funding cycle.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: A new clinic is under construction in the community. A $1.7M BIA road project is going to begin construction in 2007.

Ongoing Funding: A water main extension is scheduled for construction in 2007 to bring community water to the new clinic site.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	C
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	1200	Sf.	C
Sewer, Other - Study, sewer other	IHS Regular	1	Ls.	E
WATER TREATMENT - Foundation - concrete foundation	IHS Regular	1200	Sf.	C
WATER SOURCE - Ground water well, water source	IHS Regular	1	Ea.	D
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1	Ft.	E
Sewer, Other - Study, sewer other	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $4,357,236.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Portions of the existing 4" PVC arctic pipe water main have had freezing problems over the creek. The new HUD houses were connected to the circulating main with a single noncirculating schedule 40 PVC arctic pipe water line. Major portions of the existing 4" main are over 30 years old and failing.

Sewer: The condition of the PVC sewer mains are unknown. Their condition is to be evaluated during phase 1 funded study. The majority of the mains and service lines were constructed in 1974 with several sewer main extensions in 1984. There are 7 houses on the west side of the community which have conventional on-site wastewater systems. Three of those have Residental Effluent Pumping stations that discharge to a 3" HDPE arctic pipe that connects to the gravity sewer main. All three of the REPS units have had sewage pump problems and are currently inoperational. The village president and utility operator have reported that during the spring and summer the wastewater lagoon is leaking out of the northeast corner and flowing into the local creek which passes through the village and into the river. The sewage lagoon percolation cell is failing.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Re-route and construct a new water main with HDPE arctic pipe. Replace the existing water main on the west side of the community and make it a looped system. Extend the water main loop to the clinic and school. Make repairs based on evaluation of the system funded under phase 1 of the master plan.

Sewer: Construct a sewer main extension and service lines to the three existing homes on individual REPS to the existing gravity sewer collection system. A small lift station and 2" force main is also required. Repair or replace sewer main based on results of the evaluation in phase I HDPE arctic pipe. Construct a new percolation cell to the wastewater lagoon to the existing cell and additional fill placed between the existing lagoon and the stream. Bentonite would be used to line this cell to minimize the potential for leakage into the stream.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier

WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	1	Ft.	D
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	D
SEWER TREATMENT - Septic tank/drainfield, individual, sewer treatment	IHS Regular	1	Ea.	D
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1	Ft.	D
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	1	Ft.	D
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1	Ft.	D
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,265,163.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The water distribution loop serving the lower end of town is 25 years old and has a history of breaks. Two sections of water lines of the distribution loop are being deformed and crushed at the local bridge due to abutments that were built on the lines. The lines which were initially buried below the frost line are exposed during the winter. The water lines in that section will need to be supported off the existing bridge. Rerouting the water lines across the bridge and up the hill will be a challenge.

Sewer:

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace 2,000 feet of the water distribution loop that runs under the stream and bridge. Reroute away from bridge.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2000	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $800,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water:

Sewer:

Solid Waste: Intermittently maintained fenced site, Unrestricted access, no cover material, permitted site. Community has out grown current site.

O & M: O&M organization in need of training.

PROPOSED FACILITIES:

Water:

Sewer:

Solid Waste: Upgrade road, Rehabilatable disposal site $290,000. Review S.W. Management Plan $15,000. Cap and cover existing site, develop new site in same vicinity with new fencing, burn box, and trenches, add facility for batteries, and segregating hazardous waste and storage. Also operating equipment for facility maintenance.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	2	Ac.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,849,265.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The community has self haul water from a watering point. None of the homes have service connections or plumbing for water.

Sewer: The community disposes sewage through individual honey bucket self haul. None of the homes have service connections or plumbing for sewage. Only the school and washeteria are connected to a treatment system through collection pipes to the sewage lagoon.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Passed resolution in 2012 accepting pipes not feasible.

Sewer: Passed resolution in 2012 accepting pipes not feasible.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	59	Ea.	C
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	3400	Ft.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	3400	Ft.	C
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	59	Ea.	C
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	2000	Ft.	C
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2000	Ft.	C
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	59	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $10,439,948.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Kongiganak laundromat, remodeled once before, needs upgrades.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Fix heating system, fire suppression system.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Washeteria, water portion, no foundation, water other	IHS Regular	1	Sf.	E
Sewer, Other - Washeteria, sewer portion, no foundation, sewer other	IHS Regular	1	Sf.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $200,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unpermitted open dump. Need a permitted area for sewage compost.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Construct new solid waste site, dedicate a location for composting sewage, and close existing open dump.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	5	Ac.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $956,555.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: Community piped water system for the east island and west peninsula sections of Kotlik is lacking. The existing water treatment plant requires modifications, including an additional heat exchanger and boiler upgrades.

Sewer: Community piped sewer system for the east island and west peninsula sections of Kotlik is lacking.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct buried water mains for the east island and west peninsula sections.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	12600	Ft.	A
Sewer, Other - General estimate, sewer other	VSW/RD	1	Ls.	A
Water, Other - General estimate, water other	VSW/RD	1	Ls.	A
O & M, Other - Professional Services (engineering)	VSW/RD	1	Ls.	A
Water, Other - Other water	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $5,011,900.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: Community piped water system for the two island sections of Kotlik is lacking.

Sewer: Community piped sewer system for the two island sections of Kotlik is lacking.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Extend piped community water system for the two island sections. Provide in-home plumbing and service lines. Two river crossings will be required.

Sewer: Extend piped community sewer system for the two island sections. Provide in-home plumbing and service lines. Two river crossings will be required.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - Other sewer	IHS Regular	1	Ls.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	22	Ea.	A
SEWER COLLECTION - In-house plumbing, vacuum, sewer collection	IHS Regular	22	Ea.	A
O & M, Other - Professional Services (engineering)	VSW/RD	1	Ls.	A
Water, Other - Other water	IHS Regular	1	Ls.	A
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	9300	Ft.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $5,816,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unpermitted open dumpsite is falling in river due to adjacent bank erosion.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Closure of existing solid waste site. Development of new SWS downriver along with solid waste management plan.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	5	Ac.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	2	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,550,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: 20 Native-owned homes in Kotzebue do not have water service and the service lines have failed. Most homes are located near existing mainlines, however some homes will require mainline extensions to provide water service to the homes.

Sewer: 20 Native-owned homes in Kotzebue do not have sewer service or and the service lines have failed. Most homes are located near existing mainlines, however some homes will require mainline extensions to provide sewer service to the homes.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project will provide water service for 20 Native owned homes. Work includes water main extensions, water service lines, and in-home plumbing.

Sewer: Provide sewer service for 20 Native owned homes. Work includes sewer main extension, sewer service lines, and in-home plumbing.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	500	Ft.	C
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	20	Ea.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	500	Ft.	C
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	500	Ft.	C
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	20	Ea.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	500	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,668,336.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: No water service with this project

Sewer: The Lagoon is failing and the with the population increase

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Increase lagoon size

Sewer: Increase lagoon size

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	4	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,172,416.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The WTP foundation undergoes severe seasonal differential settling, which has caused severe structural damage to the building and plumbing, and is stressing the electrical wiring, creating an imminent fire hazard. See the attached pictures. The following damage exists: - There are cracks through exterior walls that you can see daylight through, allowing cold air infiltration. - There are several cracks within the interior of the building, which in some places is stretching electrical wiring (in addition to plumbing), causing an imminent fire hazard and loss of service due to electrical system failure. - The water distribution lines penetrating the building have been stressed beyond failure, resulting in complete separation of the lines just outside the building. The seasonal movement makes repair of the lines difficult because the joints are constantly stressed one way or the other. As a result, there is always some compromise in the joint, exposing the entire distribution system to contamination. - The interior distribution and pressure plumbing, which has been re-plumbed once already due to structural failure, is again severely stressed and in imminent danger of structural failure. - As a result of the settlement, a main roof beam has broke into two pieces. The structural integrity of the building was assessed by Larsen Consulting Group. The results of this inspection deemed the facility unsafe for public use and should be open only on a limited basis. The damage to the water treatment plant has created at situation where the treatment plant building faces imminent structural failure.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a new WTP on a properly designed and constructed foundation. Install a treatment system capable of meeting the SWTR. Connect the new WTP to the existing distribution system, raw water sources, sewer system, and fuel source. This effort also involves the demolition and disposal of the existing water treatment plant and construction of a temporary water plant.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier

WATER TREATMENT - Foundation - conventional, local gravel, water treatment	IHS Regular	1664	Sf.	C
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	1664	Sf.	C
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	250	Ft.	C
Water, Other - Other water	IHS Regular	1	Ls.	C
Water, Other - Other water	IHS Regular	1	Ls.	C
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	100	Ft.	C
Water, Other - Other water	IHS Regular	1	Ls.	C
Water, Other - Other water	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,505,320.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The community's 200,000 gallon water storage tank (WST) has suffered extensive roof damage due to either a buildup of pressure or a vacuum condition most likely caused by icing in the tank. As a result, the metal roof is buckled which has caused separation from the interior support members and tank wall. The roof has a 6-inch diameter hole located at a low point formed by the deformation. This hole allows rainwater, snowmelt, and foreign materials to enter into the treated water stored in the tank. The deformed roof has also caused the insulation shell covering the top of the tank to crack and separate from the roof. Some sections of the roof insulation are missing. The separation has allowed water to saturate the wall insulation as well. The tank walls and the tank foundation appear to be structurally sound.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Remove and replace the WST roof and roof insulation. Repair portions of the WST wall insulation as necessary.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	1	Gal.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $350,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: During the spring and summer months the well houses are difficult to access due to wet ground and the lack of a developed trail or road. Current summer access is performed by foot because all-terrain vehicles (ATV) tend to damage the existing ground and become stuck.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a gravel access trail to provide reliable year-round access to the water source buildings.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Road, water other	IHS Regular	3000	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $310,500.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing water sources will not meet the project 2030 water demand.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Identify new water source. Construct new shallow wells or infiltration gallery.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Surface water gallery, water source	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $911,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: None

Sewer: The community has identified two areas which have experienced freeze-ups in the winter. The first area is East of Willow Street between Third Avenue and Lake Avenue, and the second area is a section to the east of the lift station on Second Avenue. Also, Infiltration is observed in the spring, at the manholes on Willow Street between Third Avenue and Fourth Avenue, and at the corner of Cottonwood Street and Second Avenue. The infiltration results in high flows entering the lift station and gravel build-up in the interceptor tank. The Lift station building and force main pump have suffered damage. The pump guide rails and pump lift system are deteriorated due to corrosion within the wet well room. HVAC metal surfaces within the wet well room are extremely corroded. Additionally, painted sheetrock walls in the wet well room show mild water damage from humidity. The electric heating system within the wet well room is only providing minimal heat as the fin tubes within the radiator cabinet are completely corroded off. Wet well rooms are typically heated to insure wet well access is possible year round. If heating is not performed the wet well room doors may ice-up and prevent access in case of an emergency.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Replace sections of sewer collection line system located east of Willow Street between Third Avenue and Lake Avenue and located east of the lift station on Second Avenue. This work will include new piping and suitable backfill material. Construct repairs to the manholes located on Willow Street between Third Avenue and Fourth Avenue and at the corner of Cottonwood Street and Second Avenue. The repairs should be accomplished by exposing the manholes and inspecting them for cracks. The area around the manholes should be graded to provide drainage away from the manhole lid. Construct repairs to the well and lift station building to include installation of new pump guide rails, FRP wall board, electrical heating system, and other components.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1200	Ft.	D
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $700,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The sewage lagoon has holes and tears in the liner. A new liner should be installed. Leaking is also evident where the discharge pipe penetrates the lagoon berm. This leak should be repaired at the same time the new liner is installed. Leaking has become so severe that the lagoon no longer holds wastewater and insufficiently treated wastewater is routinely discharged into the surrounding area.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Install a new lagoon liner and repair leaks at the discharge piping system.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	5	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $662,500.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing solid waste site was constructed in 1995 and has reached its capacity. The existing landfill is a Class III MSWLF and does not meet the following DEC requirements: 1. The landfill does not meet the 10,000 ft radius clearance from the airport runway. 2. The existing site does not have an approved Solid Waste Management Plan (SWMP) 2. The fencing at the existing site is inadequate for litter control.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: 1. Complete a site analysis for new landfill. 2. Design and Construct new solid waste site 3. Develop a new SWMP 4. Close and cover existing site.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	7	Ac.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	2	Ac.	D
Solid Waste C (Development) - Incinerator, solid waste	IHS Regular	1	Ea.	D
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Foundation - conventional, local gravel, solid waste	IHS Regular	2000	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,802,400.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The current WTP/Washeteria is 25 years old and beyond its useful life and needs to be replaced.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Build a new WTP/Washeteria.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Foundation - thermosyphen gravel pad, water treatment	IHS Regular	2500	Sf.	C
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	2500	Sf.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,125,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The community does not have a piped water distribution system. There is a washeteria and watering point. There is a current funded project to install wells and septic systems for 15 homes. Because of the permafrost issues and seasonal flooding, it has not been determined whether these systems will work. However, there rest of the community does not have running water or sewer and will need some type of sanitation service.

Sewer: The community does not have a piped sewer collection system

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project will provide an additional 15 homes with on-site residential wells and in-home plumbing.

Sewer: This project will provide an additional 15 homes with on-site septic systems and in-home plumbing.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Ground water well, water source	IHS Regular	1	Ea.	A
SEWER TREATMENT - Septic tank/drainfield, individual, sewer treatment	IHS Regular	15	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	15	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	15	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,512,000.00

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Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kwethluk has been a washeteria and self-haul water community with first service piped system being constructed now. It is an unfortunate reality of infrastructure construction projects that they are subject to damage from the environment. This is particularly true in the challenging conditions of western Alaska. Despite the best design and construction practices, there will be issues that require the community to make repairs to the system. Without access to the proper equipment the new sanitation facilities system is doomed to failure.

Sewer: Kwethluk has been a honey bucket community with a population of approximately 800 year-around residents. First service piped system being constructed now will allow the closure of the honey bucket lagoon. The honey bucket lagoon has been a serious health hazard with the berms well below the flood elevation of even minor flood events. Nearly every spring the honey bucket lagoon floods dumping concentrated human fecal material into the Kuskokwim River. While dumping of the entire annual collection of feces and plastic bags of human waste into the river is a regulatory issue and health risk to down steam communities; evaluating the true health risk requires an understanding of the specific flood characteristic at Kwethluk. In the spring as the ice starts to move, ice dams develop backing up thousands of acres of water behind the temporary ice dam. Rather than the flood waters carrying the contamination downstream to be diluted, the rising water level allows the sewage to slowly drift through the community contaminating everything. As the flood recedes pools of contaminated water remain throughout the community. Eventually the pools dry up and the areas that were not contaminated by the flood of sewage are then subject to contamination from the dust. It is an unfortunate reality of infrastructure construction projects that they are subject to damage from the environment. This is particularly true in the challenging conditions of western Alaska. Despite the best design and construction practices, there will be issues that require the community to excavate the buried pipe for repair. Without access to the proper equipment the new sanitation facilities system is doomed to failure.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Purchase construction equipment to remain with the community for Water system maintenance. Trash pump, welder, pickup truck, light plant

Sewer: Close and abandon the unpermitted washeteria lagoon and honey bucket lagoon as the completion phase of the piped water and sewer project. Purchase construction equipment to remain with the community for Sewer system maintenance. Excavator, Dozer, loader, dump truck

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: Kwethluk is in the process of completing water and sewer service to the entire community. Closing of the abandoned lagoons and providing maintained capability has not been funded.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - Other sewer	IHS Regular	1	Ls.	D
SEWER TREATMENT - Septic tank pumper, sewer treatment	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $951,136.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kwethluk has a washeteria and self-haul water community with a population of approximately 800 year-around residents. First service piped system being constructed now is serving the majority of the homes from a combination for funding sources. It is an unfortunate reality of infrastructure construction projects that they are subject to damage from the environment. This is particularly true in the challenging conditions of western Alaska. Despite the best design and construction practices, there will be issues that require the community to make repairs to the system. Kwethluk will be required to maintain not only the infrastructure but also the heave equipment that will be required for making repairs to the system. Without access to the proper equipment the new sanitation facilities system is doomed to failure, and without reasonable maintenance facilities the equipment will have a short useful life. Due to the remote nature of Kwethluk there is no other option for maintaining the system and equipment other than community owned resources. There are no commercial maintenance facilities or general contractors in the community.

Sewer: Kwethluk has been a honey bucket community with a population of approximately 800 year-around residents. First service piped system being constructed now is serving the majority of the homes from a combination for funding sources. It is an unfortunate reality of infrastructure construction projects that they are subject to damage from the environment. This is particularly true in the challenging conditions of western Alaska. Despite the best design and construction practices, there will be issues that require the community to make repairs to the system. Kwethluk will be required to maintain not only the infrastructure but also the heave equipment that will be required for making repairs to the system. Without access to the proper equipment the new sanitation facilities system is doomed to failure, and without reasonable maintenance facilities the equipment will have a short useful life. Due to the remote nature of Kwethluk there is no other option for maintaining the system and equipment other than community owned resources. There are no commercial maintenance facilities or general contractors in the community.

Solid Waste: Kwethluk has an unregulated fenced dumping area that is over filled and subject to flooding. The dump area is bordered by numerous excavations that fill with water and provide a health hazard

O & M: None

PROPOSED FACILITIES:

Water: Proposed facilities include maintenance facilities for heavy equipment and water delivery system components. It is anticipated that the facility will provide safe work environment for maintenance /repair of excavators, dozers, pumps, and welding operations to maintain the floating river intake structure.

Sewer: Proposed facilities include maintenance facilities for heavy equipment and sewer collection system components. It is anticipated that the facility will provide safe work environment for maintenance /repair of excavators, dozers, pumps, and dedicated work benches and wash-down areas for the maintenance of the individual lift stations.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: Kwethluk is completing construction of a community wide water and sewer system. Maintenance of this $40,000,000 asset is essential to meet the design life of the systems. Ongoing projects for completion in 2014 include: AN-03-N34, AN-04-N76, AN-04-R89, AN-05-CF0, AN-05-NB0, AN-10-J48, AN-10-NM7, and AN-11-NR5

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Shop / garage, no foundation, sewer collection	IHS Regular	900	Sf.	D
SEWER COLLECTION - Foundation - thermosyphen gravel pad, sewer collection	IHS Regular	900	Sf.	D
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	D
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	D
SEWER COLLECTION - Haul vehicle, sewer collection	IHS Regular	1	Ea.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,039,615.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kwethluk has upgraded the east side of the community to piped water and sewer. The ten homes in this project are not served because they were moved in to the project area after the design had been completed.

Sewer: Kwethluk has upgraded the east side of the community to piped water and sewer. The ten homes in this project are not served because they were moved in to the project area after the design had been completed.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: The water portion of this project will provide in home plumbing and service lines to connect the home to existing water main.

Sewer: The sewer portion of this project will provide in home plumbing, individual lift stations, and service lines to connect the home to existing pressure sewer main.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: Kwethluk has been a honey bucket community with a population of approximately 800 year-around residents. First service piped system being constructed now is serving the majority of the homes from a combination for funding sources. The ongoing funded water and sewer construction projects are providing the infrastructure for community wide services. This project is to add newly constructed homes to the project and also to serve homes relocated from areas of town threatened by river bank erosion. The following related projects are scheduled for completion this year: AN-03-N34IHR, AN-03-R34VSE, AN-04-N76IHR, AN-04-R89VSE, AN-05-CF0IHH, AN-05-NB0IHR AN-10-J48RDA, and AN-10-NM7CWA

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	1	Ea.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	750	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	10	Ea.	A

SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	750	Ft.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,152,503.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Kwethluk has a washeteria and self haul water

Sewer: Kwethluk is a honey bucket community with a population of approximately 800 year-around residents. There is no existing sewer collection or treatment facilities other then honey bucket collection and disposal.

Solid Waste: Kwethluk has an unregulated fenced dumping area that is over filled and subject to flooding. The dump area is bordered by numerous excavation that fill with water and provide a health hazard. A significant amount of construction debris will be generated as a result of the multi-year community sanitation project without a proper location to dispose.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Relocate the land fill to higher ground. Fill excavation pits. Establish stock pile of material for maintaining the land fill above the water table.

O & M: None

CIP Details:

Related Projects: The Tribal Community building which has burned down is being demolished and disposed of in the existing landfill pending funding. Inadequate waste disposal facilities exist to handle the construction debris that will be generated as a result of the on-going multi-year construction project.

Ongoing Funding: Core facilities improvements including the Eastside water and sewer mains are under under construction throughout the next two years.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	5	Ac.	D
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Professional Services (engineering)	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Road, solid waste	IHS Regular	4000	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,397,607.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The treated water tank is settling away from the existing Water Treatment Plant. Two of the eight existing thermopiles are out of commission. The thermopiles should be replaced. The tank pad should be expanded.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Expand the water tank pad, replace two thermosiphons, and add a new thermosiphon.

Sewer:

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Foundation - thermosyphen gravel pad, water distribution	IHS Regular	1	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $245,296.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Kwig utilizes a raw water storage reservoir constructed with silt berms located over 2,000' away from the water treatment plant. A water booster station at the reservoir pumps water through an above ground water transmission line. The reservoir collects snow during the winter months and rainfall the rest of the year in an attempt to collect a high quality source of water. A storage facility at the WTP is also needed since the cost of heating and operating the transmission line during the winter is very high.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a 1 MG raw water storage tank adjacent to the new WTP.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Foundation - thermosyphen gravel pad, water other	IHS Regular	8000	Sf.	D
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	1000000	Gal.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,897,600.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The existing sewage from the Kwigillingok washeteria, clinic, post office, and water plant discharges to a nearby tundra pond. The tundra pond does not meet current ADEC sewage treatment standards and has uncontrolled access. The tundra pond sewage lagoon creates a potentially serious health problem for the residents of Kwigillingok.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Convert the existing tundra pond into a two-celled sewage lagoon meeting ADEC standards.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,800,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The existing flush and haul lagoon is a single cell and not approved for FTH dumping. ADEC requires two-cell (a primary cell and a secondary cell) to achieve proper sewage treatment for the community. The existing primary cell discharges to the old borrow site adjacent to the sewage lagoon. ADEC requires secondary treatment for this lagoon - hence the elevated deficiency level and health impact level (improperly treated sewage discharged to fragile tundra).

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Construct an ADEC approved sewage treatment facility for the community of Kwigillingok. The existing primary cell can be converted to a secondary cell and a new cell constructed as shown in the attached construction plans. All design and permitting has been completed on the project. The project is shovel ready contingent upon additional funding. Project design entailed the use of dredging and geobags for the proposed construction of the berms.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,146,665.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: 19 homes DHUD homes have serious plumbing issues inside the house.

Sewer: 19 homes DHUD homes have serious plumbing issues inside the house.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: This project proposes to upgrade the plumbing for 19 houses.

Sewer: This project proposes to upgrade the plumbing for 19 houses.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	20	Ea.	C
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	20	Ea.	C
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	20	Ea.	C
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	2	Ac.	C
Sewer, Other - Planning costs	IHS Regular	1		C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,419,491.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Construction of a solid waste site and access trail has been initiated. However, the access trail is in poor shape and the landfill has never been permitted nor open for use.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: This project proposes to upgrade the trail to the landfill and allow the landfill to be permitted as a Class III landfill.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Road, solid waste	Other	4700	Ft.	D
Solid Waste C (Development) - Road, solid waste	IHS Regular	4700	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,705,019.00